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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/040,845	01/07/2002	Chung-Kun Liu	SAIS 0150 PUS	2777

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EXAMINER
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BRINEY III, WALTER F

ART UNIT	PAPER NUMBER
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2644

DATE MAILED: 06/23/2004

3

Please find below and/or attached an Office communication concerning this application or proceeding.

7

# Office Action Summary

Application No.

10/040,845

Applicant(s)

LIU, CHUNG-KUN

Examiner

Walter F Briney III

Art Unit

2644

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 07 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☒ Claim(s) 3 and 5 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)     | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Where applicant acts as his or her own lexicographer to specifically define a term of a claim contrary to its ordinary meaning, the written description must clearly redefine the claim term and set forth the uncommon definition so as to put one reasonably skilled in the art on notice that the applicant intended to so redefine that claim term. *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed. Cir. 1999). The term “**a direct current output**” in claim 1, line 7 is used by the claim to mean “**a positive output**”, while the accepted meaning is “**an unvarying and constant current output**.” The term is indefinite because the specification does not clearly redefine the term. For the purpose of this examination the examiner assumes that the **direct current output** is actually a **positive output**, which is consistent with the functionality of a rectifier circuit.

Claims 2-5 are rejected because in their dependence upon claim 1 contain the same limitation of contention.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zoerner (US Patent 4,636,587).

Claim 1 is limited to a **power switch device**. Zoerner discloses a power switch device **for a telephony instrument that is connected to a local phone loop via a pair of telephone wires** (figure 1, elements 16, 18) **and that has a pair of power lines** (figure 2, elements 46, 48) **for connection to a power source** (figure 1, element 24). Zoerner discloses a **rectifier** (figure 2, element 32) **adapted to be connected to the telephone wires** (figure 1, elements 16, 18) (figure 2, elements 34, 36). Rectifiers inherently generate outputs that are monotonic in polarity (i.e. a **positive output**). Zoerner discloses a **latching relay** (figure 2, elements 60 and 62) a **first switch** (figure 2, element 54) **unit adapted to interconnect one of the power lines** (figure 2, element 48) **to the power source** (figure 1, element 24 via figure 2, element 52). Zoerner discloses using semiconductor switches 60, 62, and 54 in place of **an exciting coil and a first switch**. Therefore, Zoerner anticipates all limitations of the claim with the exception of **an exciting coil**. The examiner takes Official Notice of the fact that coils are superior to semiconductor switches in power switching instances is well known. It would have been obvious to one of ordinary skill in the art at the time of the invention to replace the semiconductor switches of Zoerner with an exciting coil and

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switch for the purpose of providing a latching relay with zero leakage current through the first switch. Clearly, the coil has a common node connected to the return line, and an input that includes the gates of transistors 60 and 62. Zoerner discloses a **differentiator** (figure 2, element 76) **interconnecting said rectifier** (figure 2, element 32) **and said exciting coil** (consider the switches 60 and 62 replaced by a coil) **of said latching relay**. The functionality of the circuit will remain the same even after replacing the switches with a coil. Thus, the **coil** will be activated by the differential pulse generated by the changing electric field of capacitor 76. The coil will activate switch 54 causing current to flow between lines 48 and 52 (column 3, lines 33-58). Thus, after activating the phone, ringing and other standard signals can be sent to the telephone by the line card (i.e. **enable operation of the telephony instrument when the phone loop signal present at the telephone wires is a ring signal**). Zoerner discloses **an integrator** (figure 2, elements 64, 68) **connected between said rectifier** (figure 2, element 32) **and said exciting coil of said latching relay** (figure 2, element 60). Zoerner discloses a **discharge control circuit** (figure 2, element 70, 80) **connected to said differentiator and said integrator**. Zoerner discloses a sleep input that causes a discharging current through capacitor 68. The sleep input is low during a call, where a call inherently comprises a ringing portion (i.e. **said discharge control circuit inhibiting said integrator from discharging electric current when the phone loop signal present at the telephone wires is the ring signal**), and the input is high after a call is completed, thus neither ringing nor talking is present (i.e. **and allowing said integrator to discharge when the phone loop signal present at**

**the telephone wires is neither the ring signal nor a talking signal).** According to the previous replacement of switches 60 and 62 with a coil, the discharging of capacitor 68 forces the coil to discharge in an attempt to recharge the capacitor. This lasts until the return line has sunk all potential from the capacitor and coil. The result is a brief negative current through the coil that opens switch 54 (i.e. **said exciting coil of said latching relay being excited by the electric current discharged by said integrator so as to enable said first switch unit to break connection between said one of the power lines and the power source, thereby disabling operation of the telephony instrument).** Therefore, Zoerner makes obvious all limitations of the claim.

Claim 2 is limited to **the power switch device as claimed in claim 1**, as covered by Zoerner. Zoerner discloses that **said rectifier is a bridge rectifier** (figure 2, element 32). Therefore, Zoerner makes obvious all limitations of the claim.

Claim 4 is limited to **the power switch device as claimed in claim 1**, as covered by Zoerner. Zoerner discloses an **integrator** (figure 2, elements 64, 68) **including a series connection of a resistor and a capacitor.** Zoerner discloses that the **discharge control circuit** (figure 2, elements 70, 80) blocks the capacitor from discharging when a conversation is in progress (i.e. **permits charging of said capacitor when the phone loop signal present at the telephone wires is the talking signal**) (column 1, lines 37-64). Therefore, Zoerner makes obvious all limitations of the claim.

***Allowable Subject Matter***

Claims 3 and 5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and if all 35 U.S.C. 112 second paragraph issues are resolved.

Claim 3 is limited to **the power switch device as claimed in claim 1**, as covered by Zoerner. Zoerner discloses a **differentiator** (figure 2, element 76), but clearly does not include a diode. The polarity guard provides all the rectifying functionality required. Therefore, Zoerner anticipates all limitations of the claim with the exception of **a series connection of a diode and a capacitor**. Thus, claim 3 is allowable.

Claim 5 is limited to **the power switch device as claimed in claim 1**, as covered by Zoerner. Zoerner discloses a hook switch (figure 2, element 28), which are typically latching relays, however, Zoerner makes no reference to controlling the hook switch using the differentiator and integrator because the switch is easily activated when a user picks up the handset. Therefore, Zoerner makes obvious all limitations of the claim with the exception of **wherein said latching relay further includes a second switch unit that makes connection between said rectifier and said integrator when said exciting coil of said latching relay is excited by the electric current flowing through said differentiator, and that breaks connection between said rectifier and said integrator when said exciting coil of said latching relay is excited by the electric current discharged by said integrator**. Thus, claim 5 is allowable.

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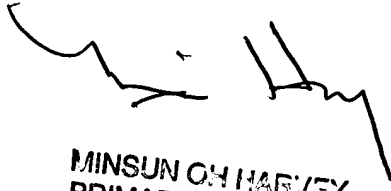
**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter F Briney III whose telephone number is 703-305-0347. The examiner can normally be reached on M-F 8am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Forester W Isen can be reached on 703-305-4386. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

WFB  
6/17/04



MINSUN OH HARVEY  
PRIMARY EXAMINER